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Conference Abstract

Empowering Biodiversity Education: Practicing Digital Data Utilization through BioBlitz in a Japanese Curator Course

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Abstract

The digital creation and utilization of biological data, such as occurrence information, are facilitated through the Global Biodiversity Information Facility (GBIF) using Darwin Core standard (Darwin Core Task Group 2009, Raymond M 2021). This standard ensures consistent documentation of species data, enabling efficient sharing across regions. In Japan, publishing biological data in digital formats is becoming essential for biodiversity monitoring. However, there remains a gap between data digitization and its practical use, especially in education. University curatorship programs emphasize data collection but often lack comprehensive training in utilizing these data for research or conservation, limiting students' opportunities to experience the full scope of data acquisition and application. This report presents a case study of a BioBlitz, conducted in a curatorship program to address this gap (Saito et al. 2020) . A BioBlitz is a collaborative survey where participants aim to identify as many species as possible within a specific area and time frame. Students received lectures on GBIF and the Darwin Core standard, followed by practical training using the iNaturalist (iNaturalist 2024) app. iNaturalist enables real-time species identification and data sharing, making it a valuable educational tool. Thirty-four students were divided into smaller groups of 4–5 to conduct a biological survey in a local park, identifying an average of 90 species in an hour (Fig. 1). After the survey,

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structured discussions allowed students to evaluate the app's usability and potential for data utilization. They discussed the strengths and limitations of iNaturalist, including its ease of use, accuracy, and its integration with larger biodiversity datasets. Ethical considerations, such as sharing sensitive species data, were also explored. This hands-on exercise helped students understand the role of digital data in biodiversity conservation. They learned not only about data acquisition but also its real-world applications, including conservation efforts and environmental policymaking. This approach bridges the gap between theoretical knowledge and applied skills. The results indicate that incorporating BioBlitz exercises into educational programs can significantly enhance students' ability to engage with digital biodiversity data, from field collection to analysis and application. Expanding these exercises could better equip future conservation professionals with the skills needed to address global biodiversity challenges. In conclusion, BioBlitz exercises provide an effective model for integrating digital tools into biodiversity education, offering students a comprehensive learning experience. This approach is crucial for preparing the next generation of biodiversity professionals with the technical skills and ethical understanding required for responsible data use in conservation.

Figure 1.

Students photographing plants using the iNaturalist app on their smartphones.

Keywords

iNaturalist, GBIF, Darwin Core

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Conflicts of interest

The authors have declared that no competing interests exist.

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